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6. (Once Amended) A process for the oxidative dehydrogenation of an alkane having from 2 to 4 carbon atoms comprising contacting said alkane in the presence of oxygen to a compound that includes nickel oxide at a temperature of less than or equal to about 400 °C and obtaining a selectivity in said dehydrogenation of greater than 70% and a conversion of greater than 10%.

10. (Once Amended) The method of claim 6 wherein said conversion is greater than 15%.

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11. (Once Amended) A process for the oxidative dehydrogenation of an alkane having from 2 to 4 carbon atoms comprising contacting a gas mixture comprising said alkane and oxygen to a catalyst that includes at least about 50% nickel oxide; and obtaining a selectivity greater than 70% and a conversion greater than 10%.

15. (Once Amended) The method of claim 11 wherein said conversion is greater than 15%.

67. (Once Amended) A method for the oxidative dehydrogenation of ethane to ethylene, ~~optionally with ethylene as a co-feed with said ethane~~, comprising contacting ethane to a catalyst that includes at least about 50% nickel oxide (NiO) with either niobium oxide (Nb_2O_5) or tantalum oxide (Ta_2O_5).

REMARKS

With this Amendment, Claims 1, 5, 6, 10, 11, 15 and 67 have been amended and Claims 16-66 have been canceled without prejudice. Thus, after entry of this Amendment, Claims 1-15 and 67 are pending in the instant Application. Applicant expressly reserves the right to prosecute claims drawn to canceled subject matter in one or more continuation, divisional or continuation-in-part applications.